

Notice of Allowability

Application No.

10/657,027

Examiner

Mohammad Meah

Applicant(s)

BURLINGAME ET AL.

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/8/06.
2. ☒ The allowed claim(s) is/are 1,2 and 11-14.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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DETAILED ACTION

Applicant during the supplemental amendment amended (via facimail, attached herewith) the claims followingly:

Amended claims 1 and 11-14.

Authorization for this examiner's amendment was given by Richard Osman via telephone (8/4/06).

Examiner Amendment

Please amend the abstract to a single paragraph as shown in the attached page.

Reason for Allowance

Applicants have established novel procedures for the detection of O-sulfonation of serine or threonine residue of a protein in cell. Prior art does not teach the detection of O-sulfonation of serine or threonine residue of protein in cell. Though O-sulfonation of tyrosine of protein (Hiltz et al. PNAS 1955, 41, 880. Bettelheim et al. JACS 1954, 76, 2838-2839) and O-sulfonation of glycopeptide (Conboy et al. J. AM.SOc Mass Spect 1992, 3, 804-814) is known but O-sulfonation of serine or threonine of a protein in cell is not known in prior art. As such these novel procedures for the detection of O-sulfonation of serine or threonine of protein in cell are novel and non-obvious.

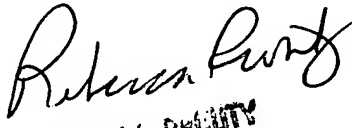
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Meah whose telephone number is 571-272-1261. The examiner can normally be reached on 8:30-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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ABSTRACT OF THE DISCLOSURE

Post-translational O-sulfonation of a serine or threonine residue of proteins is detected, optionally comparatively, wherein the detected O-sulfonation is detected under a first physiological condition, and is compared with a control O-sulfonation detected under a second physiological condition, and a difference between the detected and control O-sulfonations indicates a difference between the first and second physiological conditions. Predetermined changes in physiological conditions are used to infer specific changes in O-sulfonation. Proteins are modified by introducing a predetermined change in O-sulfonation at a serine or threonine residue of the protein, and optionally, detecting a resultant change in O-sulfonation. These methods include introducing or increasing O-sulfonation, eliminating or reducing O-sulfonation; and derivatizing or substituting O-sulfonation.